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Notice of Allowability	Application No.	Applicant(s)	
	10/649,920	SMITH, CAREY A.	
	Examiner Que T. Le	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to _____.
2. The allowed claim(s) is/are 1-46.
3. The drawings filed on 25 August 2003 are accepted by the Examiner.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
7. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application (PTO-152)
6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.


Que T. Le
Primary Examiner

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

In claim 1, on line 1, "," has been inserted before "each".

In claim 20, on line 10, "estimated wavefront phases" has been changed to "estimated wavefront phase".

The following is an examiner's statement of reasons for allowance: The prior art fails to teach an adaptive optics control system for compensating distorted wavefronts, each having a plurality of states including at least one of a velocity, intensities, phase slopes, and branch points, among other features, comprising at least one wavefront sensor measuring at least one state of the wavefront at a current point in time and generating output signals; and a state space wavefront reconstructor receiving the output signals for generating a plurality of correction signals to be applied to a wavefront corrector controlled by a plurality of actuators. The prior art also fails to teach a state space wavefront reconstructor for use in an adaptive optics control system, and its method, for compensating distorted wavefronts, which each wavefront having a plurality of states including at least one of a velocity, intensities, phase slopes and branch points, and the system includes a wavefront corrector and at least one wavefront sensor for measuring at least one state of the wavefront at a current point in time, among other

features, comprising a state space wavefront estimator estimating a plurality of wavefront states at the current point in time; and a wavefront phase reconstructor to receive the estimates estimate a wavefront phase and generate a plurality of correction signals, based on the estimated wavefront phase, to be applied to the wavefront corrector.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

I) Bucourt et al 6,653,613 disclose a method and system for wavefront analysis including a wavefront reconstructing device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Que T. Le whose telephone number is (571) 272-2438.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta, can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Que T. Le
Primary Examiner